

**CONFIDENTIAL**

NPIC/P&DS/D/6-1535  
26 August 1966

MEMORANDUM FOR: Chief, Procurement Division, Office of Logistics

25X1A

ATTENTION: [REDACTED]

SUBJECT: Proposal Solicitation for Development of Color Dryers

1. It is requested that the copies of the enclosed R&D documents entitled Color Film Dryer and Color Print Dryer be sent to the organizations listed on the enclosed sheet. The prospective contractors should be allowed thirty days to submit their proposals. Each contractor may bid on either or both of the enclosed development objectives.

2. The nature of the work as set forth in the development objectives is unclassified.

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3. The Plans and Development Staff plans to commit [REDACTED] towards this program during FY-1967.

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Assistant for Plans and Development, NPIC

Enclosures:

- 1 - List of Prospective Bidders
- 2 - Development Objectives - Color Film Dryer
- 3 - Development Objectives - Color Print Dryer
- 4 - DB 1001 Dated 11 June 1966 - General Requirements for Contractual Documentation

Distribution:

- Orig + 1 - Addressee
- 1 - [REDACTED]
  - 3 - P&DS/DB

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NPIC/P&DS [REDACTED]

2476: (18 Aug 66)

DECLASS REVIEW BY NIMA / DoD

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GROUP 1  
Excluded from automatic  
downgrading and  
declassification

STATOTHR

Approved For Release 2001/08/13 : CIA-RDP78B04747A001400020015-9

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DEVELOPMENT OBJECTIVE

COLOR SHEET FILM DRYER

1.0 INTRODUCTION:

1.1 PURPOSE: This document contains the requirements for a Government sponsored study and development project covering the investigation of advanced methods of drying photographic color sheet films.

1.2 BACKGROUND: Proper drying of color cut sheet film materials has always been a difficult problem. Many of the methods and techniques employed to dry black and white photographic materials cannot be successfully applied to color films due to the softness of the color emulsions and the tendency of these emulsions to become excessively "tacky" during the drying process.

1.2.1 CURRENT PROCEDURE: Cut sheet color films, both transparency and negative materials, are presently dried in a drying chamber or cabinet. The films are usually placed in film hangers in the drying cabinet and hot air is circulated around the film. This method is time consuming and does not dry the film in a quality fashion, that is, does not dry the film so that there is no evidence of water marks, abrasions, scratches, image distortion, peeling, curl, fading, color shifts, mottling, etc.

2.0 CONCEPT

2.1 PURPOSE: The proposed program will encompass a thorough investigation and analysis of all advanced techniques in the area of film drying. These techniques will be evaluated and the most practical and feasible method of color sheet film drying will be selected. Based on the selected technique a prototype color film dryer will then be developed which will not only dry color sheet film rapidly but which will also overcome the quality defects specified in Par 1.2.1.

2.2 SCOPE: The total effort, as outlined above, will be divided into two separate but interrelated phases; continuance from the first phase to the second phase will be dependent on the successful accomplishments of Phase I. Proposals solicited at this time are restricted to the tasks outlined in Phase I.

2.2.1 Phase I: INVESTIGATION AND DESIGN ANALYSIS

The contractor is expected to extensively and exhaustively investigate all advanced drying techniques (example: air bearing, ultrasonics) that may apply to the problem of drying both color negative and color positive types of sheet film. Emphasis should be placed on feasible and practical solutions directed toward a rapid, automated, high quality drying system. The techniques must be applicable to a system which will dry color film in the best quality manner possible; (Ref. Par. 1.2.1). At the conclusion of the investigation portion of Phase I, the contractor will present to the Government Representative a recommended technique or techniques which can be applied to the development of a color film dryer. Advantages and disadvantages and ease of application of each alternate technique will be presented. Upon concurrence of the recommendations by the Government, the contractor will proceed to develop laboratory models or breadboard hardware which will successfully demonstrate the application of the recommended technique.

2.2.2 Phase II: EQUIPMENT PROTOTYPE

Based upon the successful demonstration of techniques in Phase I, it is presently planned to proceed to a hardware prototype stage. The prototype hardware will be suitable for installation and use in an operational area. More definitive specifications for the prototype equipment will accompany the request for a proposal for performing this phase of the program.

3.0 GENERAL:

3.1. PROPOSALS: Proposals submitted here under should be clear concise, and limited in content to that information required to qualify the prospective bidder and demonstrate ability to perform satisfactorily within the scope of this document. Information on existing equipment which may be modified to meet the goals of this study may be included at the contractor's option.

3.1.1 DELIVERY: While it is the wish of the Government to accomplish the aims of this project as expeditiously as possible, sufficient time should be allotted for thorough and complete accomplishment of the aims set forth herein. It is envisioned that Phase I should take approximately eight months. The time span for Phase II will be discussed upon solicitation of a proposal for performing that portion of the work.

3.2. ADMINISTRATION: The Government will retain overall control of this project. Objectives, costs, priorities, subcontractors and consultants involved in this program fall within the jurisdiction of the Government and approval must be obtained before these factors are employed.

3.3 CONTRACT INFORMATION: The contractor is expected to provide competent and cooperative administrative service. He will be vested with certain authority, with the guidance of the technical monitor, to control the direction and degree of technical effort within the bounds of the estimated costs.

3.3.1 CONTRACTOR RESPONSIBILITY: As a part of the overall responsibility, the contractor will be responsible for the work performed by all of his subcontractors and consultants.

3.3.2 TECHNICAL REPRESENTATIVE: The contracting officer will designate a Technical Representative to authorize specific development efforts of the contractor. Such authorization shall be given in writing in its original form or in confirmation of an oral authorization. The contractor will accept no other authorization except that of the Technical Officer or the contracting officer.

3.4 DOCUMENTATION:

3.4.1 Regular monthly reports and a final report will be required from the contractor under this program.

3.4.2 All reports will meet the requirements of the applicable portions of Specification DB 1001 dated 31 August 1966, GENERAL REQUIREMENTS FOR CONTRACTUAL DOCUMENTATION.

17 August 1966

## DEVELOPMENT OBJECTIVE

### COLOR PRINT DRYER

#### 1. INTRODUCTION.

1.1. Purpose. This document contains the requirements for a Government sponsored study and development project for the investigation of advanced methods of drying photographic color prints.

1.2. Background. Drying color prints matte and glossy involves different operations and distinct problems.

Many of the methods and techniques employed to dry black and white paper prints cannot be successfully applied to color prints due to the softness of the color emulsions and their tendency to become excessively "tacky" during the drying process.

##### 1.2.1. Current Procedure.

1.2.1.1. Glossy Color Prints. Glossy color prints are dried in much the same way as glossy black and white prints. During the drying process, the emulsion is kept in contact with a highly polished chromed surface, usually a drum. The gelatin of the emulsion forms to the surface of the chromed plate or drum, leaving the print with a high gloss finish. Although many commercial dryers for black and white materials are used to dry glossy color prints (for example - Pako Drum Dryers), the drying process for glossing color prints is very critical. The drum has to be kept perfectly clean and polished, and sometimes it is necessary to condition the drum surface with glycerine and water to maintain a slick surface. Also, the temperature and speed of the dryer have to be kept within close tolerances. If these conditions are not closely adhered to, the prints will generally stick to the drum surface. Even when the operation is successful, the volume is limited because the dryers must use a slower speed for color print materials.

1.2.1.2. Matte Color Prints. There are no commercial print dryers that can rapidly dry color prints matte, in a quality manner; that is, dry them so there is no evidence of abrasions, scratches, emulsion frilling, curl, cracks, color shifts, etc. The most accepted method uses hot air drying racks. The prints are placed face up on a saran mesh shelf in the rack, where hot air is circulated around

them. This process takes at least 20 minutes and leaves curled and wavy prints, which then have to be flattened in a dry mounting press. During the flattening process there is danger of cracking the emulsion.

The other method of drying prints matte is to place them on a rack and allow them to air dry without applying heat. This method usually prevents severe curl in the prints, but it requires several hours of drying time.

In black and white photography, matte prints are usually dried around a drum with the print surface held against a canvas belt during the drying process. This method cannot be used for color prints because either the color emulsions adhere to the canvas belt or the belt marks the soft color print surface.

## 2. CONCEPT.

2.1. Purpose. The proposed program will encompass a thorough investigation and analysis of all advanced techniques in the area of color print drying. These techniques will be evaluated and the most feasible method for each of the two print (i.e. matte & glossy) drying requirements will be selected. Based on the selected techniques, one or two equipments for rapidly drying high-quality color paper prints shall be fabricated.

2.2. Scope. The total effort, as outlined above, will be divided into two separate but interrelated phases; continuance from the first phase to the second phase will be dependent on the successful accomplishment of Phase I. Proposals solicited at this time will be restricted to the tasks outlined in Phase I.

2.2.1. Phase I Investigation & Design Analysis. The contractor must extensively and exhaustively investigate all advanced drying techniques that may apply to the problem of drying color paper print materials matte and glossy. Emphasis must be placed on feasible solutions directed toward rapid, automated, high-quality drying systems. The techniques must be applicable to a system which will dry color prints in the best quality manner possible (Ref. Par 1.2.1.2.). At the conclusion of the investigation portion of Phase I, the contractor will present to the Government representative details of recommended techniques which can be applied to the development of a color print dryer or dryers. Advantages and disadvantages and ease of application of each alternate technique will be presented. Upon concurrence of the recommendations by the Government, the contractor will proceed to develop laboratory models or breadboard hardware which will successfully demonstrate the application of the most appropriate recommended techniques.

2.2.2. Phase II Equipment Prototype. Based on the successful demonstration of techniques in Phase I, it is presently planned to proceed to a hardware prototype stage. It would be desirable to combine both drying requirements into a single dryer. However, if separate components are proved necessary to solve the problems of drying color prints matte and glossy, this alternative will be considered. The prototype hardware will be suitable for installation and use in an operational area. More definitive specifications for prototype equipment will accompany the request for a proposal for performing this phase of the program.

### 3. GENERAL.

3.1. Proposals. Proposals submitted hereunder should be clear, concise, and limited in content to that information required to qualify the prospective bidder and demonstrate ability to perform satisfactorily within the scope of this document. Information on existing equipment which may be modified to meet the goals of this study may be included at the contractor's option.

3.1.1. Delivery. While it is the wish of the Government to accomplish the aims of this project as expeditiously as possible, sufficient time should be allotted for thorough and complete accomplishment of the aims set forth herein. It is envisioned that Phase I will take approximately eight months. The time span for Phase II will be discussed upon solicitation of a proposal for performing that portion of the work.

3.2. Administration. The Government will retain overall control of this project. Objectives, costs, priorities, subcontractors and consultants involved in this program fall within the jurisdiction of the Government and approval must be obtained before these factors are employed.

3.3. Contract Information. The contractor is expected to provide competent and cooperative administrative service. He will be vested with certain authority with the guidance of the technical monitor to control the direction and degree of technical effort within the bounds of the estimated costs.

3.3.1. Contractor Responsibility. As a part of the overall responsibility, the contractor will be responsible for the work performed by all of his subcontractors and consultants.

3.3.2. Technical Representative. The contracting officer will designate a Technical Representative to authorize specific development efforts of the contractor. Such authorization shall be given in writing in its original form or in confirmation of an oral authorization. The contractor will accept no other authorization except that of the Technical Officer or the contracting officer.



3.4. Documentation.

3.4.1. Regular monthly reports and a final report will be required from the contractor under this program.

3.4.2. All reports will meet the requirements of the applicable portions of Specification DB 1001 dated 31 August 1966, GENERAL REQUIREMENTS FOR CONTRACTUAL DOCUMENTATION.

Specification No. DB-1001  
Issue Date: 31 August 1966

CONTRACTUAL DOCUMENTATION TO BE SUPPLIED BY CONTRACTORS

1. SCOPE

- 1.1 This Specification covers the contractual documentation to be supplied by contractors in the performance of Research and Development contracts.

2. REQUIREMENTS

- 2.1 General - In order to maintain proper control of the progress and funding of Research and Development contracts, it is necessary that certain orderly reporting be accomplished by the Contractor on a regularly scheduled basis.
- 2.1.1 All documentation submitted by the Contractor shall bear the control number assigned by the Contracting Officer's Technical Representative. This control number shall appear on all correspondence, reports, etc., submitted by the contractor under the contract.
- 2.2 Types of Reports - The following types of reports shall be submitted by the contractor. Specific reports shall include, but not necessarily be limited to, the designated information.
- 2.2.1 Monthly - A monthly report shall be prepared as of the last working day of each calendar month. The first monthly report shall be prepared as of the last working day of the first full calendar month subsequent to the date of contract. Monthly reports shall be mailed so as to reach the consignee(s), stated in the contract, not later than the first business day after the fifteenth of the month following the reporting period. Each Monthly report shall provide the following, with negative reporting if applicable.

- 2.2.1.1 A statement of the activity on the project during the month and the percentage of work completed as of the reporting date.
- 2.2.1.2 A statement of the planned activity for the next month.
- 2.2.1.3 A statement of pending, unresolved technical problems.
- 2.2.1.4 A statement of pending, unresolved contractual problems.
- 2.2.1.5 A statement for the record, of agreements or understandings reached orally during the reporting period on technical matters not requiring the approval of the Contracting Officer.
- 2.2.1.6 A statement of any proposed change, agreement or understanding which requires the approval of the Contracting Officer. The contractor is cautioned not to proceed in a situation requiring the prior approval of the Contracting Officer until such approval has been obtained. In situations requiring correspondence with the Contracting Officer, a complimentary copy shall be forwarded, simultaneously, directly to the Contracting Officer's Technical Representative.
- 2.2.1.7 A statement of unanswered, unresolved matters, unanswered correspondence, etc. and whether delinquency is attributed to the contractor or to the Government.
- 2.2.1.8 Status of funds. The format shown in Enclosure 1 shall be used to report the status of funds. All applicable items shall be reported. If no expenditures or obligations have been incurred for a specific item, the word "None" shall be entered in the space assigned for the dollar amount.

- 2.2.2 Final Report - The final report shall be submitted to the Contracting Officer's Technical Representative on or before the thirtieth day following completion of the work under the contract. This report shall cover the entire design and/or development work accomplished during the period of performance and shall contain a section covering the work performed under each of the tasks set forth in the Work Statements. The report shall state concisely but completely the major problems encountered, the apparent cause of the problems, the problem solutions and an evaluation of the solutions based on actual application of the solutions.
- 2.2.3 Installation Engineering Data - Whenever hardware is a deliverable item under a contract the contractor shall provide the Installation Engineering Data requested on Enclosure 2. The Contracting Officer's Technical Representative shall provide the blank forms to the Contractor. Preliminary data shall be submitted to the Contracting Officer's Technical Representative at six months and again at three months prior to the delivery date of the equipment. Final data shall be submitted by the contractor not less than thirty days prior to the delivery of the equipment.
- 2.2.3.1 The outline drawing, submitted with the Installation Engineering Data form shall show:
- (a) the orientation of the equipment within the work area for normal equipment useage.
  - (b) the exact location of all external connections.
  - (c) the clearance required around the equipment for access to all removeable panels, doors, etc.
  - (d) the location of mounting points and type of mounting required.

2.3 Delivery of Reports - All monthly reports and the final report shall be forwarded by the contractor to the Consignee(s) specified in the contract. The contractor shall forward each report in the number of copies specified in the contract.

2.3.1 The Installation Engineering Data form plus the outline drawing shall be forwarded to the Contracting Officer's Technical Representative.

Specification No. DB-1001

## Statement of Funds as of 30 September 19XX (See Note 1)

## EXPENDITURES

1. Labor:			
a.	Total paid as of 31 August 19XX	XX,XXX	
b.	Paid during September 19XX	<u>X,XXX</u>	
c.	Sub-total		XX,XXX
2. Material:			
a.	Total paid as of 31 August 19XX	X,XXX	
b.	Paid during September 19XX	<u>XXX</u>	
c.	Sub-total		X,XXX
3. Services (sub-contracts, etc.):			
a.	Total paid as of 31 August 19XX	X,XXX	
b.	Paid during September 19XX	<u>XXX</u>	
c.	Sub-total		X,XXX
4.	Total expenditures as of 30 September 19XX		XX,XXX

## OBLIGATIONS AND ESTIMATES

5. Obligations:			
a.	Sub-contract W/ABC Co., amount not yet paid	X,XXX	
b.	Sub-contract W/DEF Co., amount not yet paid	XXX	
c.	Material ordered but not yet paid for	<u>XXX</u>	
d.	Sub-total		X,XXX
6. Estimates of Future Expenditures:			
a.	Estimate of labor required	X,XXX	
b.	Estimate of material required	XXX	
c.	Proposed sub-contracts	<u>XXX</u>	
d.	Sub-total		X,XXX
	Total		XX,XXX

NOTES:

1. All amounts shown above must include overhead, G&A, handling charges, fees, etc.

INSTALLATION ENGINEERING DATA

Date form completed \_\_\_\_\_

(See Remarks at end of form)

Tentative ☐ Valid until \_\_\_\_\_Final data ☐

## I. INSTRUMENT

- A. Name of instrument: \_\_\_\_\_
- B. Manufacturer: \_\_\_\_\_
- C. Contract number: \_\_\_\_\_
- D. Delivery date: Tentative: \_\_\_\_\_ Final: \_\_\_\_\_

## II. PHYSICAL FEATURES

- A. Sub-assemblies:
1. Number of sub-assemblies: \_\_\_\_\_
  2. Largest sub-assembly: Weight \_\_\_\_\_ lbs; \_\_\_\_\_" H x \_\_\_\_\_" W x \_\_\_\_\_" D
  3. Heaviest sub-assembly: Weight \_\_\_\_\_ lbs; \_\_\_\_\_" H x \_\_\_\_\_" W x \_\_\_\_\_" D
- B. Assembled instrument:
1. Number of major components: \_\_\_\_\_
  2. Largest component: Weight \_\_\_\_\_ lbs; \_\_\_\_\_" H x \_\_\_\_\_" W x \_\_\_\_\_" D
  3. Heaviest component: Weight \_\_\_\_\_ lbs; \_\_\_\_\_" H x \_\_\_\_\_" W x \_\_\_\_\_" D
  4. Total floor space required after assembly, including maintenance access space. \_\_\_\_\_ Ft. \_\_\_\_\_ In. High x \_\_\_\_\_ Ft. \_\_\_\_\_ In. Wide x \_\_\_\_\_ Ft. \_\_\_\_\_ In. Deep.
  5. Total weight of assembled instrument: \_\_\_\_\_ lbs.
- C. Type of base of mount: Flat \_\_\_\_\_; 3-point suspension \_\_\_\_\_; 4-point suspension \_\_\_\_\_
- D. Does the instrument have built-in mobility? Yes \_\_\_\_\_ No \_\_\_\_\_
- E. Is the instrument particularly sensitive to vibration? Yes \_\_\_\_\_ No \_\_\_\_\_
- Will the instrument generate vibration? Yes \_\_\_\_\_ No \_\_\_\_\_
- Are any special or unusual tools or fixtures necessary or advisable for the installation of the maintenance of this instrument? Yes \_\_\_\_\_ No \_\_\_\_\_.
- If "Yes," please describe: \_\_\_\_\_

## II. UTILITIES

- A. Electrical:
1. Voltage \_\_\_\_\_ Volts <sup>AC</sup> / \_\_\_\_\_ Volts <sup>DC</sup>
  2. Current \_\_\_\_\_ Amps/phase \_\_\_\_\_ Amps
  3. Frequency \_\_\_\_\_ cps
  4. Nr. of phases \_\_\_\_\_ Ph
  5. Nr. of wires \_\_\_\_\_
  6. Power required \_\_\_\_\_ Watts \_\_\_\_\_ Watts
  7. Power factor \_\_\_\_\_ (Leading) (Lagging)
  8. Type of outlet: Two prong \_\_\_\_\_; three prong \_\_\_\_\_; Twist lock \_\_\_\_\_; Perm. \_\_\_\_\_
  9. Type of ground: Building conduit \_\_\_\_\_; Direct earth ground \_\_\_\_\_
  10. Should the instrument be shielded, either from external electromagnetic signals or to prevent interference with other equipment? Yes \_\_\_\_\_ No \_\_\_\_\_
- If "Yes," to what extent? \_\_\_\_\_



B. Air conditioning:

1. Desired environment: Room air temperature of \_\_\_\_ °F / \_\_\_\_ °F and relative humidity of \_\_\_\_ % / \_\_\_\_ %.
2. Input Air: Is a direct connection necessary? Yes \_\_\_\_ No \_\_\_\_; Adviseable? Yes \_\_\_\_ No \_\_\_\_; If "Yes," what is the connector type and size? \_\_\_\_ Recommended input air temperature \_\_\_\_ °F / \_\_\_\_ °F. Relative humidity \_\_\_\_ % / \_\_\_\_ %. If input air must be filtered, what is the maximum particle size in microns? \_\_\_\_ What particle count? \_\_\_\_ / cu. ft.
3. Output Air: Is a direct connection to the return air duct necessary? Yes \_\_\_\_ No \_\_\_\_ Adviseable? Yes \_\_\_\_ No \_\_\_\_ Connector type and size? \_\_\_\_ Output air temperature \_\_\_\_ °F / \_\_\_\_ °F. Relative humidity \_\_\_\_ % / \_\_\_\_ %. Output heat \_\_\_\_ BTU/Hr. Flow of \_\_\_\_ CFM. Is output air toxic? Yes \_\_\_\_ No \_\_\_\_; Noxious? Yes \_\_\_\_ No \_\_\_\_.

C. Plumbing:

1. Is water required? Yes \_\_\_\_ No \_\_\_\_; Pressure \_\_\_\_ PSIG, flow \_\_\_\_ GPM.
2. Type of water required:  
Tap \_\_\_\_ °F / \_\_\_\_ °F Deionized \_\_\_\_ °F / \_\_\_\_ °F  
Tempered \_\_\_\_ °F / \_\_\_\_ °F Filtered \_\_\_\_ °F / \_\_\_\_ °F  
If filtered, give maximum permissible particle size in microns and the maximum permissible count. \_\_\_\_ microns \_\_\_\_ particles/cu. ft.
3. Pipe required:  
Galvanized \_\_\_\_ Copper \_\_\_\_ Size \_\_\_\_  
Stainless Steel \_\_\_\_ Plastic \_\_\_\_ Type of connector \_\_\_\_
4. Floor drain:  
Diameter of drain \_\_\_\_ Galvanized drain? \_\_\_\_  
Plastic drain? \_\_\_\_ Glass drain? \_\_\_\_
5. Are any chemical solutions used in the device? Yes \_\_\_\_ No \_\_\_\_ If "Yes," state the nature of the solution(s), permissible temperature range, flow rate in appropriate units and the filtration necessary for each solution \_\_\_\_
6. Size of pipes and connectors \_\_\_\_

D. Compressed air:

Is compressed air required? Yes \_\_\_\_ No \_\_\_\_ Water free? \_\_\_\_ Oil Free? \_\_\_\_  
Type and size of connector? \_\_\_\_ Pressure \_\_\_\_ PSIG. Flow in CFM \_\_\_\_  
Maximum \_\_\_\_, minimum \_\_\_\_, average \_\_\_\_.

E. Vacuum:

Is vacuum required? Yes \_\_\_\_ No \_\_\_\_ Pressure \_\_\_\_ PSIA or (inches of water) (millimeters of mercury). Displacement in CFM, maximum \_\_\_\_, minimum \_\_\_\_, average \_\_\_\_ Type and Size of connectors \_\_\_\_

F. Peripheral Devices:

Will the instrument be connected to any peripheral devices such as a computer or data input or data output device? Yes \_\_\_\_ No \_\_\_\_ If "Yes," give, in detail, the nature of the connection to the peripheral device such as coaxial cable, multiple wire connector, etc.

IV. REMARKS

- A. Use additional sheets if more space is required for environmental conditions or utilities not mentioned above.
- B. Submit three typed copies of the completed form to the Technical Representative.

- C. Attach three copies of a dimensioned outline drawing of each major component and of the completed assembly. Include the estimated weight of each major component and of the completed assembly. Indicate, on the outline drawing of the completed assembly, the space required for access to the instrument for maintenance.
- D. If a question does not apply to the instrument, insert "N/A" (Not Applicable) in the appropriate blank space.

Information provided by:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Position or job title)